JANUARY 1953

ARMY INFORMATION DIGEST

In This Issue:

FROM CAVALRY TO TANK CORPS TO ARMOR. That, in brief, is the history of the combat arm whose speed, shock and violence have so often shaped American victories. This month Armor marks the thirty-fifth anniversary of the founding of its progenitor, the Tank Corps.

HEIR TO THE LIGHT DRAGOON TRADITION of Revolutionary War days, the hard-riding "hell for leather" cavalryman figured prominently in actions at Chapultepec, at Gettysburg, in countless Indian actions and on the Mexican border. But with the formal creation of the Tank Corps on 26 January 1918, the changeover to the mechanized era began. Horses gave way to horsepower, and the sabred cavalryman was supplanted by the heavily armored, crew-operated tank which more adequately met the requirements of modern war. The medium M-47 tank shown on the cover undergoing tests at Aberdeen Proving Ground is a recent addition to the Army's Infantry-Tank-Artillery team.

OTHER ARMY ANNIVERSARIES will be noted from time to time on DIGEST covers. On 24 January 1923, the post-World War I occupation of Germany was concluded with the lowering of the Stars and Stripes at Ehrenbreitstein near Coblenz. A view of this historic spot appears on the back cover. Other memorable January events in Army history include: Army Engineers completed the Panama Canal (1915), American troops landed at Anzio in Italy and Kwajalein in the Marshall Islands (1944) and at Lingayen Gulf in the Philippines (1945).

THREE TIMES IN RECENT DECADES our armed forces have had to buy time while the American people hastily mobilized for defense. "Korea was the third, if not the last, warning we shall have in our lifetime," the Army Chief of Information emphasizes. In "Defense Begins at Home," Major General Floyd L. Parks calls for public awareness and support to end the alternating cycles of strength and weakness which in the past have endangered our national security.

YEARS OF COMMAND EXPERIENCE are epitomized by a seasoned Navy officer in "A Philosophy for the Service Man." Vice Admiral Hewlett Thebaud's statement, while directed to officers of the USS *Clark* while he was their commanding officer, has general application and value to personnel in all grades of all services.

THE FIGHT AGAINST OBSOLESCENCE in ideas and materiel goes on. Economies in equipment and manpower made possible by the Army's research and development program are summarized by the Under Secretary of the Army in "More Defense Per Dollar—Through Research." The complex business of developing a new antiaircraft weapon is traced, step by step, in "A Weapon Is Born."

THE OTHER HALF OF THE STORY. The commander's responsibility to his subordinates in assuring completed staff work is the subject of an article by the Chief of the Office of Programming, Munitions Board. Principles applicable to staff relationships in the Armed Forces, industry and business alike are set forth in chart form for reference use.

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U. S. Army Photograph

THE HONORABLE EARL D. JOHNSON

MORE DEFENSE PER DOLLAR --THROUGH RESEARCH

THE HONORABLE EARL D. JOHNSON

IN 1935 the total strength of the Army Establishment approximated 138,000 men, and total Army expenditures were about 366 million dollars for the year—or only one half of one percent of the gross national product. Under such circumstances, extravagance, while undesirable, nonetheless was hardly fatal.

Today, with a gross national product approximating 345 billion dollars annually and with defense expenditures approaching 20 percent of that total, waste in the military establishment becomes a matter of overriding concern to every citizen. As long as Communism is bent on conquest, there is little hope of a major reduction in defense expenditures. It is therefore extremely essential that the Army obtain the maximum return for every dollar it spends.

Army personnel, acutely aware of this need to eliminate waste, are attacking this problem of costs through many channels. One method which already has paid huge dividends—and one which ultimately should produce even more significant returns—is found in the Army's Research and Development Program.

Too frequently in the past the Army has been accused of beginning a new war where the old one left off; in other words, fighting the next war with the last war's weapons. To guard against such a contingency, the Department of the Army was reorganized and the Under Secretary of the Army has been assigned primary responsibility for research and development activities. Within the Chief of Staff's office, the Deputy Chief of Staff for Plans has responsibility in this field. This insures that not only will the weapons change, but also that doctrine and implementation of strategy and tactics will change as our research and development program bears fruit. This whole organizational scheme fans downward and outward through

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THE HONORABLE EARL D. JOHNSON is Under Secretary of the Army. This article is based on the Under Secretary's address of 30 October 1952 before the National Paper Trade Association, Chicago, Illinois.

the various levels of the Army General Staff and into the Technical Services and subordinate commands. It finds expression at all levels not only as a working tool but also as a living philosophy of the Army.

This forward looking approach is based on the sober realization that for once we are facing an enemy who has greater manpower reserves than we do. Because of his ruthlessness, this enemy is able to gear his economy to wartime production in time of peace; also, he is able to stockpile greater quantities of equipment over a longer period of time than we are. Through tyrannical control, he is able to maintain huge armies in being.

That sober realization puts a premium on our development of weapons, equipment and techniques which will enable us to offset this superiority of mass. Research provides a means for increasing the effectiveness of our fighting men through the development of more efficient equipment, greater mobility and superior communications while at the same time achieving significant economies.

Because there has been so much written of a fantastic nature and since many people have indulged in wishful fancy, privately and publicly, a few homely illustrations may best indicate just how these economies have been achieved—significant economies which help alleviate the staggering costs of international security.

Through an intensive research program, we have developed a new field telephone wire which costs $87 per mile compared with $110 per mile for the World War II type. Yet this wire has a 20 percent longer talking range and weighs only 48 pounds per mile compared with 140 pounds for the old type. This radical improvement gives us a telephone line weighing one-third as much as its World War II predecessor, of half the size and costing 20 percent less, which experience shows can be strung in a fraction of the time it took to lay the old wire.

During the coming year the Army, because of this development, will save about eleven thousand tons of steel and more than one and one-half million pounds of critically scarce copper. Moreover some twenty-seven thousand fewer tons of wire will be needed. These economies represent a saving of twelve million dollars. Yet in researching and developing this new wire the Signal Corps spent just $288,000.

Another undramatic example is the dry cell battery. Those in the Walkie-Talkie radios of World War II have now been reduced in weight from sixteen pounds to five pounds; their useful life has been increased 56 percent while actual cost has

gone up only 25 percent. In the Handy-Talkie radio, dry cells weigh approximately the same as the old batteries and cost only 73 percent more, yet they provide a 100 percent increase in useful life. Savings in this field since World War II approximate twenty million dollars.

In the conservation of strategic and critical materials, important studies are being made in the titanium field. This metal, one of the most abundant in the earth's crust, is more prevalent than iron. Until recently, however, it was only a laboratory curiosity. Because of its strength, lightness and resistance to corrosion, it is particularly adapted to the requirements of the services. It has the toughness and strength of mild steel but weighs only half as much. Its one major drawback is its cost. Though abundant, titanium is extremely expensive to refine and in the present state of the art its metallurgy is difficult and costly. In fact, in finished item form it is more expensive than silver. However, even though it presently costs more than silver, we have opened up intriguing possibilities for its use.

One of the more important infantry weapons is the 81-mm. mortar. This mortar has a base plate made of steel which weighs approximately forty-eight pounds and costs $50. Contrasted with this, the titanium mortar base plate weighs twenty-four pounds. The staggering fact, however, is that the titanium plate costs $570 as opposed to $50, or eleven times as much.

But this seemingly exorbitant increase in cost is not the final answer. A mortar squad presently consists of nine men and it costs, on the average, approximately $5600 a year to maintain each of these soldiers. With a mortar base plate weighing twenty-four pounds instead of forty-eight pounds, it may be possible to eliminate one man from the mortar squad. Viewed in this perspective, the $570 titanium base plate begins to take on fascinating possibilities in terms of saving, annually, a $5600 man. This illustrates the type of forward thinking the Army is pursuing in its research and development planning.

While these examples are drawn from the materiel field, not all research dollars are being spent exclusively in this area. Our Nation's most precious resource is its manpower. The time required to develop a new weapon or a new tank is measured in spans of five or six years; but it takes twenty years to produce the basic soldier and probably forty-five years to produce a general. This is a resource which we have to appreciate, understand, husband and protect with every power at our command. Therefore, with each passing year we are placing increased

emphasis on research in the field of human resources.

Here are some of the pressing problems to which we seek answers: What do we know of the motivation of the individual? How do you motivate men to expose themselves to enemy fire and possible death—men who are products of democracy and have been taught the value and dignity of human life?

What do we know of the factors which enable the Eskimo to withstand extreme cold? Is it something inherent in his makeup, or is it a matter of diet, conditioning or will power?

With leadership more and more at a premium, how do you accurately identify it in the early stages? And what must we do to cultivate it and nurture it at all ages and economic levels?

These are but a few of the many questions that we are studying to better understand and utilize our human resources.

In Fiscal Year 1953 the appropriation for the Army Research and Development Program alone will total $423,000,000. In the two previous years since the Korean outbreak, it has totalled $684,000,000. These figures indicate the degree of emphasis being placed on developing an Army of the future rather than relying solely on the equipment and methods that brought us success in the past.

Research and development is a national and not just an Army effort. The other services, too, are pressing forward with objectives similar to our own. This has been recognized within and above the Department of Defense. A National Research Council has been established at the Presidential level to provide over-all co-ordination and guidance.

Through this broad-based research and development program in the materiel and personnel fields, our Nation can achieve the defense strength necessary to preserve the peace at minimum cost and the leadership capacity to enjoy and develop that peace to the full possibilities inherent in the American dream.

DEFENSE BEGINS AT HOME

MAJOR GENERAL FLOYD L. PARKS

THREE TIMES within the memory of living men our Nation has been in mortal peril of military defeat. Three times aggressors have been able to score initial gains while the American people hastily mobilized for defense of their lives and of their homes.

The World War I experience of the 1st Infantry Division of the American Expeditionary Forces is still vivid in the recollection of its members. Landing at St. Nazaire in 1917, it was found in one nose-count of new arrivals that of two hundred men to a company, approximately one hundred and eighty were recruits! Some of these units—howitzer companies for Stokes mortars and 37-mm. cannon—not only did not have weapons but the men themselves had never heard of them. Yet here they were, landing on a foreign shore three thousand miles from home, to do their part in what was then the greatest war in history. It seemed that nothing was normal except that the men happened to be Americans and were determined and willing to fight.

In spite of the forebodings of the Thirties and the inexorable advance of the dictators in Europe and the Far East, the Nation underwent another upheaval with the outbreak of World War II. The mobilization effort in the critical days after the attack on Pearl Harbor followed a time-worn pattern of woeful unpreparedness—a pattern which many can document personally.

In spite of these repeated examples of the hazards of unpreparedness, our people have yet to appreciate the near tragedy that developed at the outset of the fighting in Korea.

When the assault came at the 38th Parallel, the United States had but four divisions in Japan. And although they were primarily organized for occupation duty, these units had to be sent without delay to head off a full-blown Communist offensive. These divisions were admittedly understrength—a fact that any newsboy would have known—and it was necessary to reinforce their ranks, not only to fill vacancies that already existed but to

MAJOR GENERAL FLOYD L. PARKS, USA, is Chief of Information, Department of the Army.

fill the gaps that would develop through casualties of battle, sickness and normal attrition.

Normally, our divisions are supposed to have a strength of about eighteen thousand men. Behind them are supposed to be Corps troops, that is, special groups of tanks, artillery and engineers, and behind them, specialists of many kinds. But the four divisions in Japan went into action with less than 60 percent of required strength and little by way of Corps or Army support. There were absolutely no trained replacements available anywhere to fill the vacancies that soon would occur except by emasculating the few units of the Regular Army garrisoned in this country, stripping them of virtually all of their riflemen and most of their commissioned and noncommissioned officers. That had to be done. One team was dismantled to save another but even that failed to provide the divisions in Korea with the needed strength until we could mobilize our reserve.

In this critical dilemma, General Douglas MacArthur made the courageous decision to assign South Koreans in large numbers to the ranks of American units. In the first summer, 36 percent of the American strength was made up of South Koreans to a total of some thirty thousand—approximately 7800 South Koreans to each American division.

There were language barriers and other obstacles to overcome. In those first days a South Korean would approach an American soldier and say, in his own language, what sounded like "*Me Gook*," which was Korean for "American." Our soldiers did not know the proper translation—and so made up their own! But the South Korean soldier has overcome the disparaging nickname of "Gook." Today the South Korean is a "Rok" (for Republic of Korea) and has earned the respect of the American and other United Nations soldiers fighting at his side.

This review of the state of our fighting forces explains why our hastily deployed troops were for weeks on the brink of annihilation. Communist propaganda that we were the aggressors in Korea is made ridiculous by the obvious fact that we were not even prepared to defend. In actual fact, the Army's post-war occupation strength—by this time charged with the control of one hundred and twenty-five million former enemy peoples—was little more than a police force at key corners of the world, with scattered riot squads to back them up. Nonetheless, our people back home were being lulled into the same prevailing outlook as that of the early Thirties. Little did they realize that our Air Force often suspended training and that our

ground forces could not stage mechanized maneuvers because they had no money to buy gas or oil.

What were some of the specific results of this latest lapse in preparedness? Early in 1952, we ordered the withdrawal from Korea of the 24th Infantry Division, the first American outfit to be sent against the Communists. Those most familiar with the Division estimated that only two men remained of those who originally were rushed to the aid of the South Koreans. The rest were dead, wounded, prisoners or had been rotated back to this country. These men, together with units of the 2d and 25th Infantry and the 1st Cavalry Divisions, later reinforced by the Marines and 7th Infantry Division, represented the total armed might of the United States at the outset of the Korean action. Many who never lived to tell the tale had to fight the full range of ground warfare from offensive to delaying action, unit by unit, man by man, until we could bring to bear the power that transformed the Eighth Army into one of the greatest fighting forces of all times.

The North Koreans and Chinese failed to wipe out this Army but not because they did not try. Far from it! Their most serious attempt came in 1951 and was directed against the X Corps with the avowed purpose of crushing the 2d Division and United Nations forces along the Inje-Hongchong Highway. They employed five Chinese armies totalling 137,000 men and two North Korean corps of 38,000 men in their biggest mass assault.

This time they were horribly wrong in the belief that sheer weight of numbers would be enough to overcome our reinforced air, artillery and tank-infantry team. Our defense against the attack, known as the Battle of the Soyang River, resulted in frightful casualties for the Communists. It took weeks to count and bury their dead. Above all else, it proved that our techniques of training, supply and operation, coupled with the determination of men who know what they are fighting for, will pay off in a showdown with rampant Communism.

It is to the everlasting credit of men like Generals MacArthur, Walton Walker, Ridgway and Van Fleet, together with the plain courage and determination of the rank and file of the Army—many hastily summoned from the peaceful streets of America's home towns—that we were able to snatch victory from defeat in such record time. But that fact does not relieve us from the blame for having placed our own flesh and blood in such a predicament. This was the third, if not the last, warning we shall have in our lifetime.

All this bears out the truism that we will put an end to the fear of aggression only when we convince all comers that we have the ability-in-being to beat down any aggression whenever or however it becomes necessary. It is hard to see how any thinking American can ignore that truth. We are being compelled to pay a price—no one knows how great a price—for having ignored it.

The pressures and demands of a shooting war in Korea have tended to divert popular attention from our long-range concepts of collective security for the world as a whole. Fundamentally, we are agreed that each important geographical area must be defended primarily by the people of a particular region. Over a much longer period than that of the fighting in Korea, for example, France has been engaged in a bitter struggle against the Communists in Indo-China. This has drained off a significant portion of resources that otherwise would be earmarked for the defense of Europe or the Middle East. Great Britain, in the same period, has maintained expeditionary forces equivalent to more than two divisions against Communist guerrillas in Malaya.

From this, it follows that we and our allies among the European nations are in conflict with the same aggressive design that controls all the life and resources in the area between the Elbe and the China Sea. Throughout this vast region, unity has been achieved by the simple techniques of the police state. And in this concert of action and power lies the greatest danger for any single nation exposed directly or indirectly to the unrelenting attacks of Communist propaganda, subversion, force and the threat of force.

The spectre of this new would-be master attempting to enslave our presently allied peoples has given the fullest sense of urgency to the defense plans of the Atlantic nations. In joining our European allies to form the North Atlantic Treaty Organization, we followed through on the assumption that our greatest protection would lie in combining our defensive efforts with those of friendly powers. In the work that has been done we now have proof that United States defense plans can be soundly integrated with over-all plans for security of the Western world under provisions of the North Atlantic Treaty.

Two years ago, successful defense of Western Europe in the face of a co-ordinated enemy attack was only the remotest possibility. Military estimates were most discouraging. Yet now our commands and our forces could give a vigorous account of themselves should an attack be launched against them. In terms of

Army divisions, whether in service or quickly mobilizable, NATO strength has doubled in numbers while readjustments in deployment have enhanced their potential effectiveness against any threat from the East. Behind them is a steadily expanding supply system and a command organization to plan and direct their efforts on land, at sea, or in the air. This over-all defense potential of the free nations is an influence not to be underestimated in preventing Communist threats of aggression from becoming overt acts.

Throughout our planning, one of the precepts on which we have worked is that we cannot, by ourselves, do it all. We have taken steps to see that the requirements of each participating nation are carefully examined in the light of our own plans and resources as well as the capabilities of each nation to help itself.

I doubt if any country heretofore has been asked to mobilize its manpower and to fight a war in a distant land while concurrently it conducted—as the Army is presently conducting—a system of demobilization through rotation of its fighting men and release of its Reservists. I doubt if it would be possible in any other country in the world to support a war, rebuild a reasonable military strength, develop an expandable mobilization base, provide assistance to our allies and at the same time maintain a level of economy which shields the home front from the austerity programs current in many other countries.

Still, I believe the job can be done in the homes and the towns of America under our system of free enterprise and under no other. Militarily speaking, our efforts thus far have brought about in our Armed Forces a stability of combat readiness which can avert disaster. Internationally, the situation is about as stable as it is going to be for some time to come. In the months since July 1950, the advantage has slowly but surely swung to our side and the aggressor is now on the defensive.

Rather than expect any long period of passiveness, however, we must anticipate a long period of tension with alternating day-to-day improvements or set-backs which must not be allowed to unhinge our long-range program for security. It therefore becomes the responsibility of each citizen to show a constancy that will affirm our new stand for secure and protected freedoms.

If our soldiers could ask anything, they would most probably ask for increased public appreciation of what they are doing in the camps at home or at battle stations abroad. There is nothing glamorous about training in the mud, much less being shot at in the same eternal element. Yet our new soldiers will do almost

anything if they feel their efforts are appreciated; and their efforts can be appreciated only if the people at home try to understand the situation.

Sometimes the public becomes diverted from the main issues by a welter of conflicting statistics, arguments and opinions on so-called easy ways to win a war. There *is* no easy way to win a war. Yet this reality is abundantly clear—once again we have a great Army in the field. That Army is rapidly coming into its own but it still needs a great many things. Above everything else it needs the understanding and appreciative support of the people it is trying to serve.

When our forces had to go overseas to fight in 1917, in 1942 and again in 1950, Americans on the home front prayed, sacrificed and produced in order to give them what they needed and to bring them home safely. Yet, in all three instances, those who had to go were the victims of our Nation's traditional alternating cycles of strength and weakness in national defense. In the Korean action, in which the Army had to fight full-scale battles the very first day, we have arrived at the point where this cycle must be stopped, lest the practice prove fatal.

In time of crisis, our people stand ready to back their fighting forces with miracles of production and a dynamic spirit. But only when the public on the home front calls clearly and unmistakably for the establishment of an enduring defense machine fully capable and ready to go on the first day—whether that day comes tomorrow or years from tomorrow—will they render proper substance to the respected axiom that American defense begins at home.

RANGERS READY!

LIEUTENANT JIM MINTER
AND
LIEUTENANT PAUL PRICE

OVER THE RUGGED HILLS of North Georgia, through sand and brush at Fort Benning and in the wilds of Florida's swamps, selected volunteers are busy learning the lore and tactics of the famous Rangers—daring elite of the Army's combat troops.

In the popular mind, a Ranger is identified by a beautifully embroidered tab just above his division shoulder patch. To the men who wear the tab and to those who fight and train beside them, that gold and black strip means much more than any accolade or cataloguing of battle honors.

The Rangers boast a reputation as one of the hardest fighting bands in the history of warfare. Their lineage traces as far back as 1742 when they were first constituted as a military unit. They took to the field as Colonial Rangers and under Major Robert Rogers they developed into a fighting and scouting organization whose tradition has not faded with the years. During the struggle for independence, General Washington had in his command one hundred and twenty hard-hitting patriots known as Knowlton's Rangers.

Possibly the greatest chapter in Ranger history was written during the bloody days of World War II. In 1942 a band of volunteer Rangers joined Canadian troops and British Commandos and slipped across the English Channel to deal the Germans a lightning-quick smash at Dieppe that served as a prelude for the second front.

The *Wehrmacht* saw no peace where Rangers operated. Spearheading the invasion of Sicily, Rangers carved a bloody path through mine fields and barbed wire on the beaches and braved gunfire from the hills. At Butera they encountered a force of two hundred Italians under Nazi command. They took one hundred prisoners and buried the rest. Two Rangers died in that action.

FIRST LIEUTENANT JIM MINTER, Infantry, and FIRST LIEUTENANT PAUL PRICE, Infantry, are on duty with the Public Information Office, The Infantry Center, Fort Benning, Georgia.

With the invasion of Italy, Rangers held for twenty-two days on the beaches north of Salerno, fighting hard and long before a stubborn enemy retreated toward Naples. As the war was carried on to Anzio, Rangers led assault landings under cover of darkness and knifed through shore defenses into the town.

The liberating American forces pushed toward Rome and Rangers added to their record one of their proudest, and one of their bloodiest, operations—Cisterna di Littoria. Here they fought and they died; out of a force of fifteen hundred, only two hundred survived.

On D-Day in Normandy, on the hottest sector of Omaha Beach, Rangers slammed into the Germans with stunning force. By nightfall of that first day they had blasted a toehold in the Nazi defense. As a special unit of SHAEF, Rangers were on call to every division in Europe and saw action in every major battle in France.

Rangers also had a hand in the long march through the dense Pacific jungles. On Luzon, one hundred and twenty Rangers volunteered to pick their way far behind Japanese lines to rescue American prisoners of war from the notorious Camp Cabanatuan. The result was one of the most successful raids of the war.

Field training includes methods of handling and defending oneself against tropical reptiles. U. S. Army Photograph

Beneath an improvised shelter, two students plan a scouting patrol through "enemy" territory. U. S. Army Photograph

When Communist aggressors struck across the 38th Parallel in 1950, the call for Rangers was sounded again. They were organized into Ranger companies and served in Korea as hard-hitting, highly specialized units for unusual and dangerous missions. (See "The Rangers Are Back," August 1951 DIGEST). Then the pattern took a twist. It was decided that the segregation of these soldiers into separate units denied their leadership to standard infantry units. For this reason the plan was implemented to train volunteers from units as Rangers and then return them to the parent organization so that the unit could receive the benefit of their training and leadership.

General Mark Clark, former Chief of Army Field Forces and now Commander of United Nations Forces in the Far East, put it this way: "We are taking the best noncommissioned officers and young officers in the Army and making valuable leaders of them. We will then send them back to their units and hope some of this training will rub off on others." This procedure, says the general, will raise proficiency and *esprit de corps* throughout the entire Army.

Today regarded as among the best of the Army's better soldiers, Rangers are men with stamina, courage and a flaming will to fight and die if the job calls for it. Specifically, all

As part of a rigorous confidence test, one Ranger falls from a suspension rope while another slips from a log as an underwater demolition is set off below.

U. S. Army Photograph

Rangers must be volunteers—either company grade officers or selected noncommissioned officers. They must not be over thirty-two years of age; enlisted men must have a minimum of nine months to serve after completing the course while one year is required in the case of officers. Volunteers must be able to swim; they must be qualified as sharpshooter or better with either the rifle, carbine or automatic rifle, or be a first class gunner with a crew-served weapon.

An important prerequisite is the passing of the Army physical fitness test with a score of not less than two hundred points. While it is possible to score as much as five hundred points on the test, actually not more than one percent of well-conditioned men attain such a score.

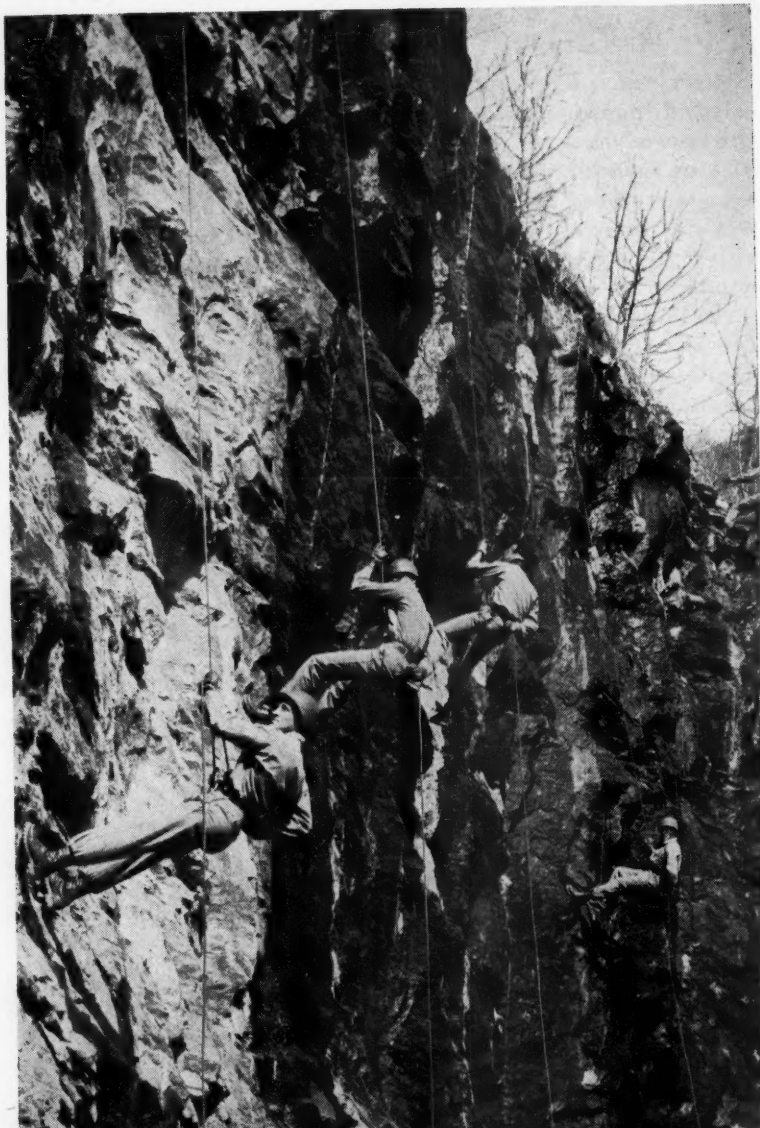
An eight-week Ranger training course starts at Fort Benning every five weeks with a maximum of one hundred and twenty students in a class. Every fourth class consists entirely of officers, while the other classes are composed of selected noncommissioned officers. The instructors in the Ranger Department of the Infantry School are themselves exceptionally capable combat veterans who have volunteered for this duty.

The training program's purpose is to develop selected small unit leaders to their maximum capabilities through practical field training. Upon returning to their parent units, these leaders are expected to enhance the individual soldier's contribution by force of their example and spirited leadership.

A keynote of the entire Ranger training program is the use of the "buddy" system. Shortly after the trainee arrives at Fort Benning, he chooses a colleague among his classmates with whom he will work throughout his training. This "buddy" system is not necessarily new, but its use in Ranger training represents possibly the first time that large groups of men have been trained by this method. Leaders thus learn unceasing responsibility to others. The obligation of one trainee to another is stressed at every opportunity. If one man fails to pass an inspection, for example, both must present themselves for inspection before a pass is granted.

Observers outside the Ranger Department may sometimes scoff at this method of instruction but Ranger trainees swear by it. They learn by experience, while undergoing eight grueling weeks of training, that the "other man" must always be considered on a combat mission.

Training is conducted in three phases—the first consisting of a twenty-one day refresher course which equalizes any



The art of rappelling down ninety feet of rocky cliff is taught to student Rangers.

U. S. Army Photograph

differences in professional military knowledge that may exist between corporals and master sergeants, second lieutenants and captains. All undergo the same refresher training in map and aerial photograph reading, academic leadership and command, responsibilities of junior leaders, survival techniques, management training, instructional methods and physical training.

Formal physical training is conducted daily for one half hour, the same as in any line organization. But in addition the men are given eight hours of hand to hand combat, six hours of bayonet training and six hours of rudimentary boxing.

The trainees are brought up to date in the uses and advantages of various types of demolitions found in an infantry organization. Stream and river crossings are taught in the Chattahoochee River which flows through the Fort Benning military reservation. There the Rangers-to-be learn to construct rafts to carry their individual combat equipment; they then swim across the river towing the raft and, upon reaching the opposite bank, deploy their forces to fight a pitched battle.

In qualification tests for award of the Expert Infantryman's Badge, the men engage in speed marches of up to twelve miles in three hours or less. Approximately 30 percent of the eligible men completing Ranger training receive the badge; most of the remainder are ineligible because they have already received either the Combat Infantryman's Badge or the Expert Infantryman's Badge.

Familiarization with and proper handling of poisonous reptiles is reviewed in first aid lectures. The neophyte Rangers are introduced to the coral snake (the most deadly but least likely to bite), diamond back rattler, cotton mouth moccasin, cane break rattler, copper head rattler, timber rattler and the mean-dispositioned little pygmy rattler—any or all of which may be encountered in the area.

At the end of his third week, the trainee must again attain a minimum two hundred point score on the Army physical fitness test. If he fails, he returns to his parent organization while his classmates go on to the next phase.

The second phase is conducted in the snake-infested, vegetation-choked swamps and jungles near Florida's Eglin Air Force Base. There for eleven days and night, Ranger trainees go through rigorous practical field problems.

The patrol—varying in size from four to fifty men—is the basic training unit employed in all field exercises. Because of its flexibility, this unit affords the opportunity for individual

achievement as members are rotated to command positions.

The trainees learn to use all types of boats normally used by an infantry regiment in combat. They practice launchings in the surf of the Gulf of Mexico and crossings in still inland backwaters. In one amphibious problem, the men must leave a mother ship in the Gulf of Mexico, go ashore through Aggressor defenses and penetrate twelve miles of almost impassable swamps to carry out a mission; they then return to a beach rendezvous with the ship. This exercise alone requires about forty-five hours.

From the sweltering swamps of northwest Florida, Ranger trainees move to mountainous Lumpkin County, Georgia, for their third and final phase of training. Here the foothills of the Blue Ridge chain are as rugged as any to be found in the southeastern part of the United States; and here the men learn to ascend and descend precipitous heights. Bridges of one, two and three ropes are constructed for crossing gorges, canyons and stream beds. Patrols engage in tactical mountain training in problems varying in length from eight to seventy-two hours, sometimes covering distances of from five to fifty miles, over all kinds of terrain.

In a series of "courage tests" the trainees are confronted with specially prepared hazards contrived by their instructors—hazards which give an initial impression of grave danger, but which prove to be not nearly as bad as they appear. The pitfalls capitalize on the average man's fear of height, fire and deep water; yet surprisingly few fail to muster the necessary courage to go through all the obstacles. One big reason for this quirk, Rangers say jokingly, is that it takes more courage for a Ranger to refuse a dangerous mission than it does for him to carry it out.

The training finale is a seventy-two hour problem involving the simulated destruction of the Blue Ridge dam on the Ocoee River. Forced marches on short rations up pine-studded slopes that seem nearly vertical, blistering summer sun, tricky river crossings and Aggressor ambushes are only a few of the impediments encountered before the Rangers return to friendly lines to announce, "Mission accomplished!"

Proud of their traditions, these Rangers are now ready to rejoin their units imbued with the spirit of daring and leadership that has served the Nation well whenever a combat mission calls for "brain, brawn and courage."

A PHILOSOPHY FOR THE SERVICEMAN

VICE ADMIRAL HEWLETT THEBAUD

AT THIS TIME when we are commissioning a new ship and all starting fresh on a clean slate, practically strangers to one another, it may be of value to you to have some idea of the point of view, likes and dislikes, desires and peculiarities of your commanding officer. Accordingly I have set forth below a few observations, some original, some not, in the hope that they may give you a helpful insight into my philosophy of naval life.

A ship cannot be imagined without organized leadership. It is obvious that the first essential in any military body is an established system of controlling men. We have the benefit of the system as it exists in the Navy. We are backed up by all the machinery of law, regulations and custom. They help a lot, but such things are only externals—means toward an end. Obedience itself is not the object. It is only a step toward the end—a necessary step, but it should be a demonstration of willingness and not an evidence of compulsion. The end sought is the co-ordination of individual strength to produce the maximum concentrated effort toward the accomplishment of the object in view.

We shall never be leaders as long as our men are giving only the measure of obedience compelled by law. We shall be leaders only when our men look up to us with confidence, when they are anxious to know our wishes, eager to win our praise, and ready to jump at a word from us in the execution of our orders regardless of whether they think them right or wrong.

How is this to be done? How can we arouse this sentiment in the men of this ship? The answer is simple but the practice is

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difficult: *By setting the example. By practicing what we preach.*

In the morning when we appear on deck, let us think what we would like every man in the crew to be and then let us try to be that man ourselves. Men unconsciously imitate their officers. We stand before them constantly as examples. If we are military, smart, decisive in our bearing, they will brace up and try to be like us. But if we are sloppy, careless, and seem congenital sufferers from that "tired feeling," no amount of nagging will make the men otherwise. If we are active, energetic, enthusiastic and, perhaps best of all, cheerful, our example will be contagious.

A ship, like the Navy, is as good as the men in that ship—no better.

Officers can guide, can influence, can mold men. But whether their efforts are successful depends upon the officers setting the very best example in everything. There is scarcely anything more infamous, more destructive of discipline and loyalty, than the officer whose philosophy of life is based on the principle of "Don't do as I do; do as I say."

Know the practical business of going to sea. The examination papers of many officers reveal the fact that while they are able to make a diagram of a radio set or sketch of a Diesel engine, they are often deplorably deficient in elementary seamanship, in rules of the road, the different kinds of buoys, and how to lower or hook on a boat in a seaway. Whatever your technical qualifications, you must be a good sailorman. I want you to know more about every man and everything in your department or part of the ship than any man in it. Know where the fire plugs are, the spanners, nozzles, magazine floods, water-tight doors, and how to handle them. Know where everything is stowed. I want every officer in the ship personally and without assistance to be able to veer chain, let go an anchor, put on a stopper, and heave in. In case of fire, collision, or other emergency, lead your men through knowledge acquired beforehand.

Be *able* to take charge, and when you are in charge, then *be* in charge. You know, theoretically, far more than any enlisted man. Yet you have seen, as I have seen, a lot of officers standing around like tailors' dummies, afraid they might be mistaken.

If your powers of general observation are not of the best, develop them by conscientious training. When you go up topside or walk about the decks, learn instinctively to look around. Drill yourself constantly until you notice without effort and make a mental note of such things as the direction of the wind,

whether or not it is freshening or the sky becoming overcast, the absence of the admiral's flag from the ship where it usually flies, that some ship has gone alongside the tanker, that another is painting or preparing to weigh, and so on. And in this process don't forget the *Clark*. If you see lines or swabs hanging over the side or the colors are foul, don't pass it all up because you are not on duty. Do something about it. We are all on duty twenty-four hours a day, although not necessarily at all times engaged in executive duty. And in this connection if you return aboard at 0311 and fail to see the Petty Officer of the Deck, don't turn in and forget it because you're not on watch and it's not your pigeon anyhow. If you do you're infinitely more remiss in your duty than was the P.O.D. in being in the fireroom or on the bridge over a bowl of coffee.

It is *not* how much ability an officer *has*, but *how well he uses* what he *does* have that determines his value to the Navy.

A man's character expresses itself in everything he does.

It is said that "responsibility makes cowards of us all." How many of us are but too inclined to criticize and hold forth on what we would do were we in so-and-so's billet. Yet when we actually do step into his shoes and shoulder the responsibility for the success or failure of operations which seemed so simple from the outside looking in, we find this responsibility so discouraging to our dash and conceit that we only too frequently follow the path of least resistance—excessive caution.

Any fool can criticize. Most fools do.

Don't nag your men; don't neglect them; don't coddle them; don't play the clown.

Almost any man with brains can run a reasonably well-designed piece of machinery, but it takes a lot more than brains successfully and continuously to run the human machinery.

Let no man leave an interview with you with a feeling of resentment in his heart.

I want you to feel the same responsibility when the man breaks down and fails that you do when the machine gets out of adjustment. I want you to use the same observation, attention and care with the man that you do with the machine. I want you to study the human failure just as you examine the reasons for a mechanical failure. I want you to feel a personal pride in the man who, under your command, becomes a self-respecting, upstanding man-of-war's man, just as you feel a personal sense of failure for the unfortunate who becomes a deserter and a bum. I ask you to undertake your solution of the human

problem with the firm belief that the personnel you are given to control and lead can be ruined or perfected by your own individual efforts, observation, foresight, care and intelligence.

Never give an order that cannot be enforced. Never give an order that is not likely to be obeyed unless you yourself intend to see that it is obeyed!

Remember that you are by no means your own master nor even entirely your own property, and that anything you may do to bring temporary discredit on yourself may bring lasting discredit on the United States.

No important question should ever be decided without considering primarily its effect on the efficiency of this ship for war.

Know when to say "No" and have the guts to do so.

In handling men it is well to remember that often it is not so much what you do as how you do it that counts.

Cultivate a personality that will inspire obedience. You will recall those teachers at school who could keep a large roomful of boys quiet and orderly merely by an occasional glance round, while others were in a continual state of apprehension, dispensing punishments broadcast; and the tumult increased in direct proportion to the impositions inflicted. Cultivate a personality. The ingredients are: a calm demeanor, a voice and temper under perfect control, a firm conviction of the righteousness of your cause, and a fixed determination to see that cause triumph. And you must know what you're talking about.

Try to earn for this ship the reputation of a next ahead on whom it is possible to keep station. You will never earn it. No ship ever has. But it is worth trying!

Discipline is impossible without silence. So is efficiency. Whenever a general exercise such as coming alongside, casting off, inspecting the liberty party, handling stores, paying off, or the like, is in progress, insist on absolute silence except from those giving the necessary orders.

In matters of personal bearing, uniform and so on, I shall expect you to be guided by my example. There are certain practices to which I strongly object. They are:

1. Failing to return smartly salutes rendered you.
2. The wearing of unstarched collars with blue uniforms in port.
3. The wearing of dirty, spotted, torn or frayed uniforms at any time except when working on greasy machinery.
4. Lounging in the wardroom in dungarees or out of uniform.
5. Pacing or lounging on the weather decks with hands in

trouser pockets. If your hands are cold put them in your blouse or jacket side pockets. It does not look unseamanlike and that is what the jacket pockets are for.

6. Chewing gum at any time in uniform.

7. Leaning over or against the life lines or against anything on the weather decks thereby telling the world that one is a victim of that "tired feeling."

8. Needing a shave after 0800.

9. Any kind of cheap, vulgar, uncultivated talk, especially to or in the presence of an enlisted man.

10. Pencils and fountain pens in sight in uniform outside breast pockets.

11. He who suddenly bursts into a frenzy of energy and zeal when unexpectedly he finds himself under the eye of the captain.

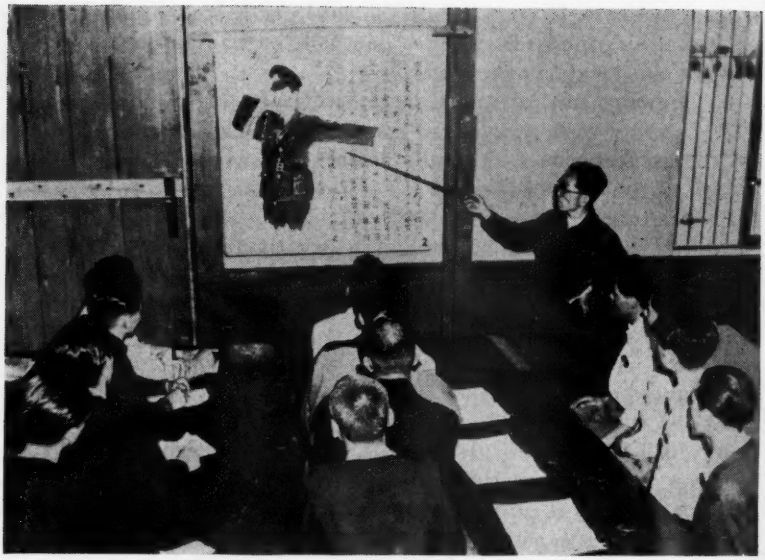
At sea in matters of uniform take your cue from me.

Avoid, as you would the plague, hostile criticism of authority or even facetious or thoughtless criticism that has no hostile intent. Our naval gunnery instructions state that "Destructive criticism that is born in officers' messes will soon spread through the ship and completely kill the ship spirit."

Admiral Lord Jervis said: "Discipline begins in the ward-room. I dread not the seamen. It is the indiscreet conversations of the officers and their presumptuous discussions of the orders they receive that produce all our ills."

The safety, honor and welfare of your country come first, always and every time. The honor, welfare and comfort of the men you command come next. Your own ease, comfort and safety come last, always and every time.

Lord Chetwode



Japanese nationals learning to drive United States Army vehicles receive instruction in police hand signals. U. S. Army Photograph

A Japanese instructor at the Tokyo Motor Center shows three students the important parts of a jeep engine. U. S. Army Photograph

NATIVE LABOR--
THE ARMY'S ALLY ABROAD

HARRY A. JACOBS

OVER STEEP and winding mountain trails of Korea, on the docks at Okinawa and Bremerhaven, in Stuttgart and Tokyo—wherever the Army carries out its oversea commitments—a sizable force of native stevedores, truck drivers, freight handlers and A-frame bearers are at work, easing the soldier's burden and saving the American taxpayers thousands of dollars.

Behind the battle lines in Korea, the ever-willing "chige-bearers," stocky little men who carry enormous burdens on their backs, move supplies relentlessly forward. Walking in single file over twisting trails, they avoid the main roads and deliver C rations, ammunition and water where no motor vehicles could ever reach. (See "Korean Brawn Backs the Attack," December 1951 DIGEST.)

From La Rochelle and Bremerhaven to Garmisch and Naples, civilians augment the labor force at our European installations. In Japan, they drive trucks and buses, unload freight and perform myriad tasks in logistical support of United Nations forces. All of these workers are employed at prevailing local wages, in conformance with the principles of international and domestic law. The Geneva Convention permits this if no compulsion or actual combat is involved.

In World War II the Germans used local labor extensively for all types of manual jobs in rear echelon facilities. *Hiwi* units—from *hilfswillige*, meaning "those willing to help"—were recruited among White Russians and natives of the Baltic countries. As German manpower decreased, the *Hiwi's* were formed into semi-military units which served as far forward as regimental levels. Toward the end of the war, the Germans in desperation armed these labor battalions and put them into combat, largely on the Eastern Front.

United States military forces, however, never exceeded the

HARRY A. JACOBS is on the staff of the Executive Office, Office of the Chief of Transportation, Department of the Army.

legal limit in employment of indigenous labor. In World War II the Army used local labor for dock work and the handling of supplies in depots. During the redeployment manpower pinch in 1945 and 1946, more and more indigenous labor was hired. These personnel were organized into service units, usually of company strength, and members were issued dyed Army uniforms. Initially, only displaced persons were eligible, but later Germans also were recruited. The service units were—and still are—mainly used as security guards at supply depots and other non-combat installations. (See "The Blue Legion," November 1948 DIGEST.)

During the occupation of Germany and Japan, local labor was widely used as chauffeurs and truck drivers. The Tokyo Motor Center, for example, employed two thousand Japanese nationals as drivers, repairmen and dispatchers. It also operated a driving school whose seven thousand graduates compiled a safety record which surpassed even that of American vehicle drivers in Japan. The school, organized in 1946 with a class of twenty-five students, gave instruction in traffic regulations, road signs, English conversation and the location of buildings. More than one hundred and fifty classes have been graduated.

Following the Korean outbreak, the Tokyo Motor Center was faced with even greater responsibilities. With every available American truck driver needed in Korea, great reliance was placed on this trained force of Japanese nationals for essential support activities.

In Korea, too, natives were hired as porters and drivers. Three indigenous truck companies are currently operating there, all part of the 296th Transportation Truck Battalion. Although members of these companies are organized in units along military lines and are encouraged to wear distinctive clothing, they are actually civilian employees of the Army. They operate equipment ranging from jeeps to the heaviest trucks, gasoline tankers and wreckers.

Each company consists of two American officers, one warrant officer, sixteen enlisted men and one hundred and sixty Koreans. Operational and administrative decisions are made by United States officers. General supervision is exercised by the enlisted men, while operating details are handled by *ichiban honchos* (chief supervisors) and their assistants, the *honchos*. Language differences present no problem since most of the native supervisors speak English.

All three truck companies are stationed at Pusan, Korea's

busiest port. They work on a twenty-four hour schedule in two shifts of twelve hours each. Every driver must complete a course at a vehicle operator's school before he is allowed to take over the wheel of a United States Army vehicle. American instructors have expressed amazement at the way many Koreans have learned to drive in a relatively short time.

Besides indoctrinating Korean students in operating techniques, the school also teaches basic maintenance. Drivers are given a thorough course in hand signals, traffic regulations and highway safety. This training has already paid off—for these truck companies have a much lower accident rate than do their American counterparts operating elsewhere on the peninsula.

Korean mechanics are adept and quick to learn. They take pride in their company's performance and, when necessary, are masters at improvising field expedients—makeshifts which may seem crude by Western standards but which work nonetheless.

Indigenous labor represents a substantial saving in manpower and dollars. Each truck company, for example, releases one hundred and fifty trained soldiers for front-line or specialized duty. In Korea, a native driver gets approximately eighty cents a day and out of this wage he feeds, clothes and houses himself and his family.

The question of utilizing indigenous labor for semi-skilled and skilled work in oversea zones of communication has always been a moot one. Factors such as the advisability of entrusting native personnel with expensive American machinery and equipment, the availability of qualified United States military supervisory personnel, the attitude of the native population as a whole, and security considerations must be considered. But once again, under the impact of combat operations, the Korean conflict provides further convincing evidence of the feasibility of utilizing native labor in military support activities.

COMPLETED STAFF WORK--
THE COMMANDER'S PART

H. A. DAMMINGER

EVERYONE who has been in the Army for any length of time is familiar with the chart entitled "Completed Staff Work" which hangs conspicuously in many headquarters offices. It tells the staff officer the steps he must follow to turn out completed staff work—how he should work out all details completely; consult other staff officers; study, write, restudy, rewrite; present a single co-ordinated proposed action; avoid long memoranda or explanations; advise the chief what to do.

But that is only half the story. Completed staff work is a two-way relationship between superior and subordinate. The subordinate does the work, but it is the superior who assigns the work to him. And it is the part played by the superior—his manner and method of assigning work—that can make completed staff work simple and useful or complex and wasteful.

Practically all of us are, during the course of a day, both superiors and subordinates. We assign jobs to our subordinates and we, ourselves, are given tasks by our superiors. It is necessary, therefore, to see both sides of the coin at all times. Heads—you assign a job and expect completed staff work; tails—you are given a job and are expected to produce completed staff work.

Since there already exists a fine set of principles to guide us in the role of subordinate, we need only the companion set of principles to guide us when we are cast in the role of superior.

That is the purpose of this article—to outline those steps which you, as a superior assigning a task, must follow if you expect to receive from your subordinates completed staff work. There are six basic steps to follow:

1. *Know the problem.* Obvious? Of course; but how many times are you, as the superior officer, not too sure of just what you are looking for? It is as simple as this—if *you* do not know, how can your subordinate? Perhaps the basic problem may be

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H. A. DAMMINGER is Chief, Industrial Mobilization Division, Office of Programming, Munitions Board.

merely to find out whether or not there is a problem. Then why not be frank and say so? You may really have two problems. The first is to find out whether there is a problem. When that question is answered, you can decide whether or not you need to go further.

2. *Make one individual responsible for the solution.* During World War II a high ranking officer asked me to participate in one of his staff meetings. For almost an hour he discussed a most serious personnel problem that badly needed a suitable remedy. Walking back to my office after the meeting, I heard one of his staff officers ask, "Who has the ball on this one?" Apparently everyone—and that meant, of course, that no one individual felt in any way responsible for doing the job of research and investigation required before a sound and workable solution could be reached. Completed staff work, in this case, was less than a pious hope. Fixing individual responsibility is an essential and primary step.

3. *State the problem clearly, precisely; explain reasons, background; limit the area to be studied.* Having followed steps one and two, you are ready to explain the job to be done. Of especial importance is the "why" of the problem. If you know what is behind the problem, tell your subordinate. If you do not know why there is a problem, you had better find out or you are likely to get a piece of work which is itself a shot in the dark because, actually, there is no target. And while you are at it, limit the field of study as much as you can. Delving too far into a problem can be an endless and useless task; it is always possible to dig a little deeper and a little wider. So suggest a few areas to avoid. "Don't look into this or that" can sometimes be as good advice as positive suggestions.

4. *Give from your knowledge and experience in the problem.* You have learned a lot about your work. Pass it on to your subordinate. Save him the time and effort of pioneering along a road you have already travelled. He will not only appreciate your paternal display of competence, experience and knowledge, but you will make the development of his final solution easier and better for both of you.

5. *Set a time limit; or request the assignee to estimate a completion date.* Here is another "must". Give your subordinate the time he needs to do an adequate job. "If you want it bad, you get it bad," is a frequently heard caution. On the other hand, you must make certain that your subordinate realizes that you need the completed answer by a certain date. Assigning a task

COMPLETED STA

HOW TO DO IT

Study of a problem and presentation of its solution in such form that only approval or disapproval of the completed action is required.

1. Work out all details completely.
2. Consult other staff officers.
3. Study, write, restudy, rewrite.
4. Present a single, co-ordinated proposed action. Do not equivocate.
5. Do not present long memoranda or explanations. Correct solutions are usually recognizable.
6. Advise the Chief what to do. Do not ask him.

If you were the Chief, would YOU sign the paper you have prepared and thus stake your professional reputation on its being right? If not, take it back and work it over; it is not yet completed staff work.

The "How To Get It" chart was conceived and developed by H. A. DAMM
Programming, Munitions Board, and LIEUTENANT COLONEL EDWARD L.
ARMY INFORMATION DIGEST,

) STAFF WORK

HOW TO GET IT

Assignment of a problem and a request for a solution in such a way that completed staff work is readily possible.

1. Know the problem.
2. Make one individual responsible to you for the solution.
3. State the problem to him clearly, precisely; explain reasons, background; limit the area to be studied.
4. Give the individual the advantage of your knowledge and experience in this problem.
5. Set a time-limit; or request assignee to estimate completion date.
6. Assure him that you are available for discussion as work progresses.

If you were the subordinate, would YOU consider the guidance, given at the time the assignment is made and as the directed work progresses, to be adequate for readily completed staff work? Adequate guidance eliminates wasted effort, makes for completed staff work.

H. A. DAMMINGER, Chief, Industrial Mobilization Division, Office of
EDWARD L. WADDELL, USA, Command and General Staff College.
ION DIGEST, January 1953.

without a deadline for completion is like being asked by a friend "to come over to dinner sometime." Its very indefiniteness provokes a feeling of insincerity and unimportance.

6. *Assure your subordinate that you are available for discussion as work progresses.* This step provides the flexibility that any good plan needs to be workable. Despite all your efforts to explain the problem, its whys, wherefores and limitations, you can be sure that questions which only you can answer will arise in your subordinate's mind as the study progresses. The English language is deceiving and confusing. What you said and what he understood it to mean may be along two very different lines. Being available for discussion does not mean that you are going to do your subordinate's thinking for him. But you should make him feel that if he gets stuck, you are still his guiding star. That's why *you* are the boss.

Follow these six basic steps and you will have every reason to expect completed staff work. Test it the next time you receive an assignment or you are ready to give a job to one of your staff.

Remember that the caliber of the completed staff work you receive is in direct ratio to the guidance you give to obtain it. It is a two-way proposition—any way you look at it.

Reprints of the Completed Staff Work chart may be secured, in limited quantities, upon request to the Editor, ARMY INFORMATION DIGEST, Fort Slocum, New York. The chart or the entire article may be reproduced locally, provided that credit is given to the authors and to ARMY INFORMATION DIGEST.

PRODUCING ARMY TRAINING FILMS

EVER SINCE the Signal Corps made its first training film in 1918, *The Soldier, Dismounted, with Rifle,* the Army has used motion pictures for instructional purposes. In darkened squad rooms, in class rooms, in post theaters or even under the stars—wherever a motion picture projector and screen could be set up—millions of Americans have witnessed these vivid training aids designed to make better soldiers.

Today the Army is still producing films for educational purposes at the Signal Corps Photographic Center (SCPC) in Long Island City, New York. The Center occupies the largest motion picture studio in the East. Built in 1920, it was used by Paramount Pictures Corporation for the filming of its first full-length sound motion picture. As World War II put the production of training films into high gear, the studios were purchased by the Army in 1942 for Signal Corps use.

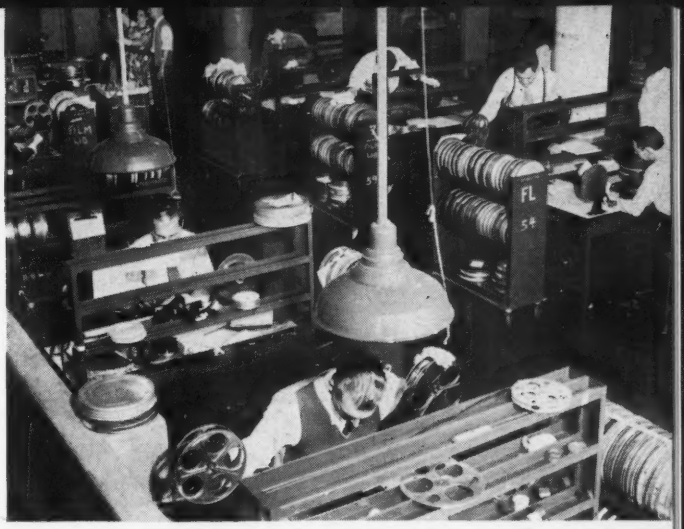
The first Army training film produced there was *Booby Traps.* Two years later the Center's output reached a peak of 2093 reels on 429 subjects, plus 415 adaptations in French, Italian, Chinese, Spanish and Portuguese. After VJ day emphasis was placed on orientation and reconditioning films for wounded veterans. The first of these, *The Diary of a Sergeant,* dealt with the adjustment of a soldier who had lost both hands in combat. Another film in this group, *Toward Independence,* won an Academy Award in 1948.

In its task of providing films on order for the combat arms and services, the Center has become the largest producer of documentary films in the United States. Here training film scripts are written, actors are cast for their parts and stages are set. Cameras roll, the film is developed, edited and synchronized for sound, and the completed films are finally shipped to Army troops at duty stations all over the world.

The Center occupies studios which were the birthplace of the first full-length commercial sound motion picture.

As a first step, a writer and project officer join with a technical adviser from the requesting agency to draft a workable script.

After the script is approved, department heads confer on the numerous technical and artistic details which must be co-ordinated.



Economy is important. Costly location shots and elaborate sets are eliminated by using stock scenes from the film library.

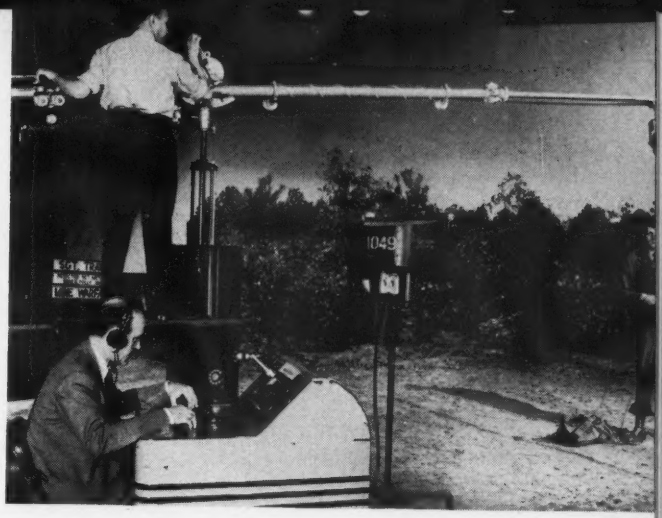
Miniature sets are sometimes used to anticipate problems in actual set construction.

Keeping within a low budget figure, these craftsmen can duplicate anything from an imposing interior to a front-line combat area.

The wardrobe department costumes the actors. Few "big names" are used since the real stars are the facts and the information.

All kinds of weather and terrain are portrayed in the studio by authentically reproduced sets.

Miniature cities can be duplicated by model-makers in the special effects studio.



The sound engineer uses a console, or sound "mixer," to control the level and quality of the actor's voice.

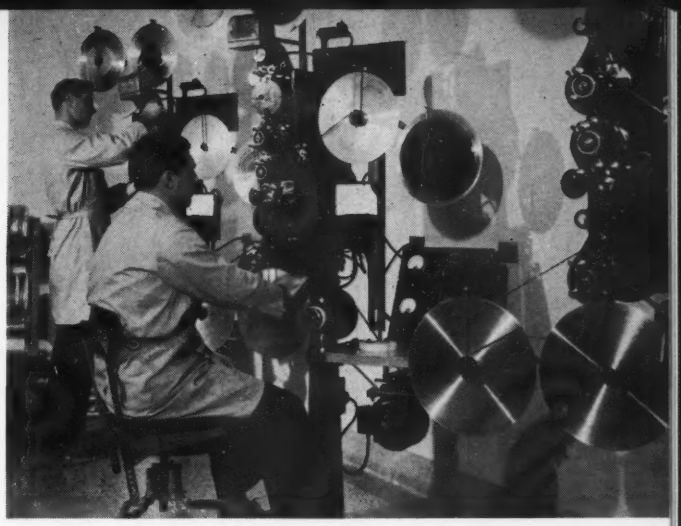
For authentic location shots, camera crews may travel to installations of the combat arms or technical services where special demonstrations are staged.

If animated drawings are required to explain complicated military equipment, the art department prepares the necessary sketches.

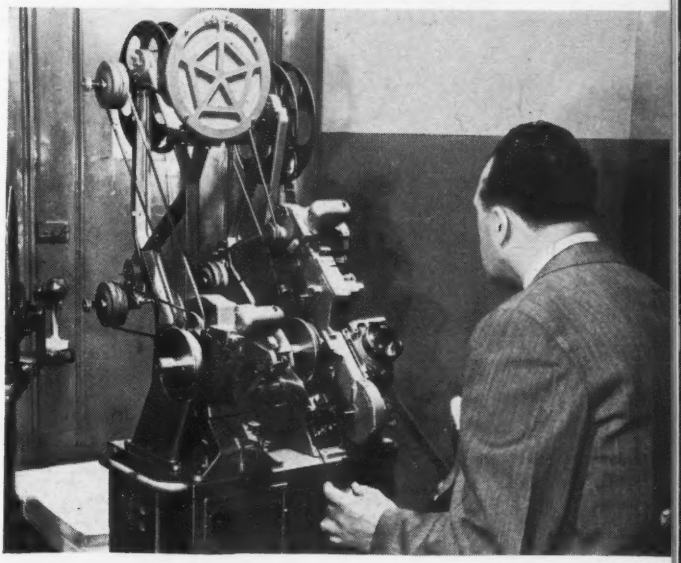
Artists trace the original sketches on transparent celluloid frames which are then photographed to produce an animated sequence.

Technicians photograph the inserts, montages and the various effects which will be used in the film.

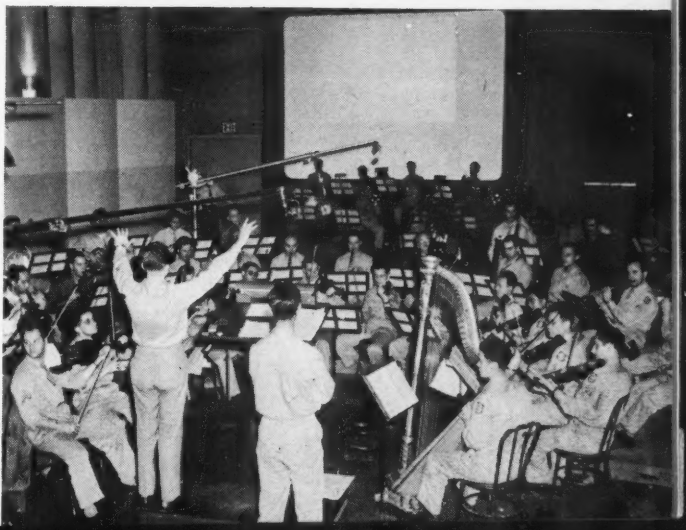
Each completed film is drawn through developing tanks, fixed, washed and dried in a continuous process.



The developed negative must be converted into a "positive" before it can be shown on the screen. Fresh "positive" stock is printed by machine.



Sequences are assembled by the film editor, who uses a moviola to view the separate lengths through a magnifying glass.



Millions of feet of recorded music are available for use at any time. Here an Army band adds a selection to the files.

Music, narration, sound effects and dialogue are finally blended with the action in this operation.

In adapting training films for use by our allies, linguists convert the dialogue and narration into as many as twelve languages.

After necessary military approval, duplicate prints are prepared for world-wide distribution. The next step is to you, the audience.

A WEAPON IS BORN

LIEUTENANT COLONEL LEONARD M. ORMAN

Disclosure that the Army has moved antiaircraft batteries into defense positions around stategic targets in several large cities was made today. The program has been going on for more than a year, the Army emphasized, and the current move is entirely routine.—*News Item.*

NEWS STORIES coming into city rooms on wire service tickers recently brought home to the American public the increasing significance of antiaircraft artillery weapons in the defense of the Nation. Undoubtedly some of the "strategic targets" mentioned are factories which themselves produce the guns or component parts of the complicated firing systems that today are needed to aim these all-important defense weapons.

Back of the bald fact of placing even one antiaircraft artillery battery into position lies a vast program of scientific research involving improved propellants, complicated proximity-fused ammunition and still more complicated fire control systems. The day is long gone when antiaircraft defense required simply the best possible guns which could be aimed manually. Today, with aircraft exceeding the speed of sound and with guided missiles hurtling along in the thousand mile an hour range, the antiaircraft gun itself is relatively useless unless it is tied to an extremely complicated control system.

Such a system must be capable of picking up a swiftly flying enemy plane or missile—often entirely out of sight—and of aiming the guns and controlling their fire. As General J. Lawton Collins, Chief of Staff, recently told the House of Representatives Committee on Armed Services: "One of the key items in our air defense is the M33 fire control set which is an essential part of our 90-mm. and 120-mm. guns as well as some of our new rockets. This equipment . . . permits our weapons to fire effectively at greater ranges and higher altitudes."

But how are those fast firing, far reaching guns developed? How was the M33 control set perfected? Who decides that we

LIEUTENANT COLONEL LEONARD M. ORMAN, Artillery, is Head, Test Group, Army Field Forces Board No. 4, Fort Bliss, Texas.

need a new weapon, or what sort it will be and how fast it will fire? The answer to many of those questions is provided by the work of Army Field Forces Board No. 4, located at Fort Bliss, Texas. Here a staff of experts tests and passes on the acceptability of weapons and electronic devices.

The work of the Board itself is as complex as the production of guns and their firing systems. No longer can tests be made simply by taking a gun out on a range and firing it. Today giant electronic computers, delicate measuring devices, mathematical formulae conveyed on rolls of tape—all are used to insure that the guns will keep pace with the machines they must combat.

The idea for a new weapon or for improvements in existing equipment may originate at almost any level. It may be a new antiaircraft (AA) gun, a computer, a tracker, a new IFF (Identification Friend or Foe) system, a fire control radar component or any one of numerous other items. The idea may be the outgrowth of a staff study or may come from an individual, either a military or civilian scientist or engineer in the field. Once the basic idea is reviewed and accepted, the Board is responsible for guiding its implementation through preparatory stages, securing liaison with other agencies that might be interested, testing a pilot model exhaustively, suggesting changes if necessary and finally recommending adoption or rejection.

If, for example, a new surveillance type radar is proposed, AFF Board No. 4 plays a vital role in its development.

First, a staff officer of the Board is directed to prepare a set of military characteristics (M/C). Since electronic equipment is involved, the officer follows a standard form prescribed by the Joint Chiefs of Staff which oultines such items as operational characteristics, physical characteristics, equipment operaton and maintenance characteristics. Obviously for a gun or other equipment, still different characteristics would apply. A set of M/C is circulated among Board members and to Marine Corps and British and Canadian liaison officers assigned to the Board. The views of the Antiaircraft and Guided Missiles Branch, The Artillery School, also are included.

When all comments are incorporated, the M/C must pass before the Board Directorate for final approval. The M/C are then sent to all interested agencies for formal co-ordination. Comments are received and incorporated and the completed M/C are forwarded to the Office, Chief of Army Field Forces for approval. When, as and if approved, they go to G3, Department of the Army. If they meet agreement there, they go to G4

who sends them to the appropriate Technical Service for action.

In the case of the surveillance radar, the developing agency would probably be the Signal Corps. After preparing technical specifications, a contract would then be negotiated with a commercial firm for the development and construction of a pilot model. Throughout this phase of development, an Army Field Forces liaison officer follows its progress. After study and analysis of the pilot model, a contract is let to a qualified company for production of service test models. Again the AFF liaison officer will keep a close watch on the new equipment as it is being fabricated. Board No. 4 may even send an officer to familiarize himself with the equipment. In addition, the Electronics Department of the Antiaircraft and Guided Missiles (AA&GM) Branch may assign an officer and several enlisted men to study the equipment preparatory to setting up courses of instruction in its maintenance and operation.

While all this is going on, a Board officer, usually the same individual who was responsible for drawing up the initial M/C, is preparing a Plan of Test. Such service tests are designed to demonstrate adequacy from a service standpoint and to bring to light any weak points which need modification or strengthening. They also attempt to determine where emphasis should be placed in future development programs and what should be the basis of issue of the article.

In the case of the radar, the new device goes first to the Signal Corps for an engineering and acceptance test. If it successfully passes this particular hurdle, it is shipped to Fort Bliss for service testing by Board No. 4. These tests are carried out under conditions duplicating field situations as nearly as possible. Usually some changes are recommended; if they are major, a further test may be necessary. After the tests are completed, the Board may recommend a basis of issue prior to final approval and, following OCAFF approval, a Report of Test is transmitted to G3, Department of the Army, for review. The final approved Report of Test then goes to Department of the Army General Staff which orders production.

Before final acceptance, of course, every item must undergo exhaustive tests. These normally are in three phases—acceptance, engineering and service tests. During the acceptance phase the performance of a pilot model is tested against specifications to insure that the contractor has met his obligations. This usually is performed at the contractor's plant under supervision of the Technical Service concerned. The Technical Service

The twin 40-mm. gun, tested by Army Field Forces Board No. 4, has proved its effectiveness in Korean combat. U. S. Army Photograph

also may carry on its own thorough tests to determine any engineering errors which may have crept in and to gather data for subsequent technical publications such as detailed characteristics and performance tables. The service test phase, in which Board No. 4 is directly concerned, is of the utmost importance since the findings here form the basis for decisions by Army Field Forces as to whether to standardize and produce, to build a revised version or to reject, the item. Thus the three different sets of tests are made on every new item.

Uppermost in the Test Officer's mind at every step is the "Joe-angle"—the point of view of the soldier who eventually will use the weapon or equipment. Will the soldier be able to read the dials and gauges quickly, easily, accurately? Are all controls convenient to the hand and the eye? Will he be able to operate the mechanism with peak efficiency? To insure combat worthiness, delicate equipment is protected from the elements; all transportable equipment is subjected to rough handling over all types of terrain; and guns are sited in field emplacements during tests.

Although every effort is made to duplicate field conditions, it often is surprising even to service personnel visiting the test center to learn that a large part of the work is carried on by a "dry" technique—that is, detailed examinations are made of components and then of complete systems under simulated rather than actual firing conditions. Besides making it possible to repeat specific courses and trajectories with great reliability, this method saves the expense of employing towed targets, firing costly ammunition and making many thousands of feet of film to record target burst positions. In this way, too, all components can be tested scientifically and accurately. A short firing phase at the end is all that is required to verify many large samples of the "dry" test results.

To demonstrate the efficiency of the "dry" technique, take as an example a weapon system capable of firing proximity-fuzed (VT) ammunition. If firing tests were used solely as a means of evaluating its capabilities, it would be necessary to fire at a towed target. If only a small number of activations or hits were obtained, would the Board be justified in rejecting the equipment? Consider that the non-activations might result from rounds being too distant from the target, or that the towed target did not present a good signal to the radar. Then, too, perhaps the target did not represent a good signal to the VT ammunition even though the rounds passed close to the

target; or perhaps even the VT fuze itself may be at fault. One check on this would be to fire present mechanical time-fuze ammunition—and spot the burst positions accurately for comparison. This requires use of phototheodolites and their accompanying auxiliary equipment including timing devices and film reading equipment. To compute the resulting data by hand would require an excessive number of personnel working long hours—yet by the "dry" technique this task is quickly performed by automatic computing devices at the Board.

Of all the mathematical reduction equipment used, probably the most interesting is the Relay Ballistic Computer. This machine is capable of solving the gun-direction error problem. By using present position data of the target and standard firing table data, it computes the true gun order data, compares it to the actual gun orders given by the director under test, and then prints the errors in tabular form. The device will do the work of forty manual computers every eight hours and is capable of many hours of unattended operation.

In such complex work, it is vitally necessary that the various computers themselves be absolutely accurate. A Tape Type Dynamic Tester is used to determine how well the computer reproduces its answer on the same course run again and again over considerable time. This versatile tester can even provide target courses of a type not readily obtainable from the Tow Target Squadron which flies the Board's air missions.

For efficient performance, Army Field Forces Board No. 4 is organized into three primary sections. The Commanding General of Fort Bliss is titular president while active direction is vested in the Deputy President. The sections are Antiaircraft Artillery Service Test Section (AAASTS); Guided Missiles Service Test Section (GMSTS); and a Test Facilities Section. The first two are directly responsible for planning and conduct of service tests within their specific fields. The third provides maintenance facilities, instrumentation, reduction of data and assistance in analysis of test data in support of the other two sections. In addition, it service tests all equipment common to the antiaircraft mission as a whole.

Under AAASTS are Light Antiaircraft and Medium and Heavy Antiaircraft Groups. The first has cognizance over antiaircraft weapons previously designed to combat tactical aircraft. The Medium and Heavy Antiaircraft Group is responsible for guns and for associated fire control and allied equipment.

The Test Facilities Section comprises a Support Group and a

Test Group. The larger of these two is the Support Group which is organized into Field, Computing, Photographic and Shop branches. The Field Branch collects all instrumentation data peculiar to any particular test in progress. Among the many special data recording devices it operates are such items as the Precision Theodolite, automatic data recorders, the T6 Radar Set, the T12 Plotting Board and the Central Control Station used to synchronize all units on a common time base. Many of these items of equipment are the only ones in existence.

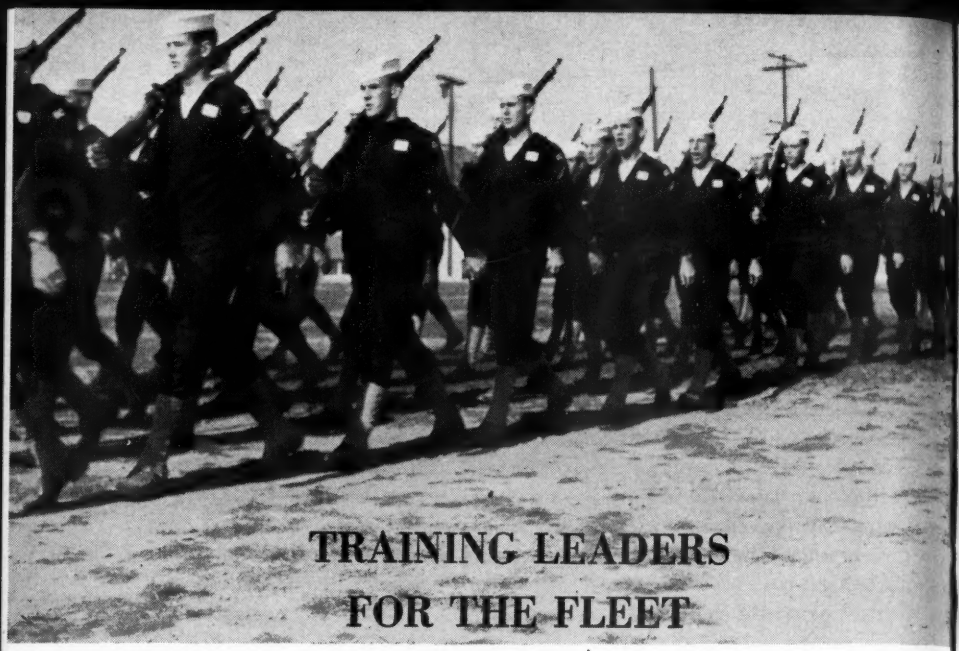
To be useful in analyzing equipment under test, all of the data collected in the field must be properly tabulated and reduced. This is the function of the Computing Branch. Here experts preview and read all theodolite and tracking camera film, compile data and perform the mathematical computations necessary to convert the data into system errors or accuracies depending on the nature of the equipment under test. The Branch presents its computation results in statistical, tabular or graphic form as requested by the Test Officer.

Under the Guided Missile Service Test Section are the Surface to Air Group and the Surface to Surface Group, both of which are charged with testing of weapons and equipment of materiel pertinent to their particular fields.

Both the British and Canadian Armies maintain representatives at the Board to assist in carrying out joint standardization agreements between the respective governments. In addition, the United States Marine Corps and Army Ordnance and Signal Corps each maintain a liaison officer at Board headquarters.

The highly technical duties of the Board obviously require workers who are skilled specialists. Many of the officers have had graduate schooling in electronics, propulsion, nucleonics and related subjects. Many hold master's degrees and several hold doctor's degrees. Civilian specialists are employed as computers, radar technicians and in other technical positions.

It is this comparatively small group of soldiers, scientists and technicians who pass upon the Army's antiaircraft weapons, who carry a new weapon from the idea stage to reality. Each has his specialty, but all have a common goal—to insure that when the Army moves an antiaircraft battery into position, the men who some day may fire that battery at a live target have the very best weapon capable of production, backed by all the skills and resources which American science and industry can command.



TRAINING LEADERS FOR THE FLEET

CAPTAIN RALPH C. JOHNSON

SINCE THE START of the Korean hostilities, twenty-nine aircraft carriers, four battleships, nineteen cruisers, one hundred submarines, three hundred and forty destroyer type vessels and scores of auxiliary and amphibious craft have been taken out of mothballs and returned to sea duty. Additional vessels, built in shipyards around the country, have been commissioned for duty with the fleet. All of these ships require trained officers to direct the crews in their complex tasks.

The procurement of literally thousands of officers to operate these vessels has presented a formidable problem to the United States Navy. Initial requirements were met by recalling Reserve officers for short tours of duty; but this source of supply has rapidly become depleted as Reservists finish their tours and are released from active duty.

Fortunately, the Navy anticipated this manpower problem. Under the inspiration of the late Admiral Forrest Sherman, a Navy Officer Candidate School was opened at Newport, Rhode Island, in June 1951. Today this School is turning out more officers per year than the United States Naval Academy and all Naval Reserve Officers Training Corps units combined. Enrollment recently has been increased to twenty-one hundred.

About two thirds of the students at the Officer Candidate School have come directly from civilian life; the remainder

CAPTAIN RALPH C. JOHNSON, USN, is Commanding Officer, United States Navy Officer Candidate School, Newport, Rhode Island.

consists of enlisted men selected from the fleet. The former are rated as OCSR (officer candidate, seaman recruit); the latter change their rates to a corresponding officer candidate grade. Thus a fire controlman, second class, becomes an officer candidate, second class. Actually rates lose meaning except for pay purposes since all receive identical treatment.

All candidates must be college graduates. Many served as enlisted men during World War II, went to college under the Serviceman's Readjustment Act of 1944 and were recalled to active duty at the outbreak of hostilities in Korea. Those candidates selected directly from civilian life learn from their association with the others something of the enlisted man's viewpoint—invaluable background for all junior officers. Thus all graduates get a taste of enlisted life before commissioning.

In establishing the Newport school, the Navy drew upon its World War II experience. The ninety-day wartime courses were admittedly designed to make either an engineering officer or a deck officer out of a student—but not both. Their graduates, conscientious and competent so far as their training went, were frequently at a disadvantage aboard ship. Accordingly, in planning the Newport school's curriculum, the Navy added four weeks to the course for deck officers and included instruction in naval boilers, turbines, Diesels, auxiliary machinery, stability and damage control.

Two roads to a Reserve commission are open to students at Officer Candidate School. One, a sixteen-week training course, leads to a general line officer's commission. The other, an eight-week indoctrination course, is designed for candidates seeking specialist and staff (supply and civil engineer corps) commissions. This latter group receives additional training in an appropriate Bureau following commissioning and graduation.

The objective of the four-month course is simply defined—to produce graduates who will be of early usefulness aboard ship in any department. To call this course intensive is an understatement. In sixteen weeks, it covers the same academic material as the four-year Naval Reserve Officer Training Corps course. The student workload of twenty-six classroom hours a week is half again as heavy as the academic schedule at the average college. In addition the candidates have six hours weekly of drill, athletics, fundamentals of leadership and the like.

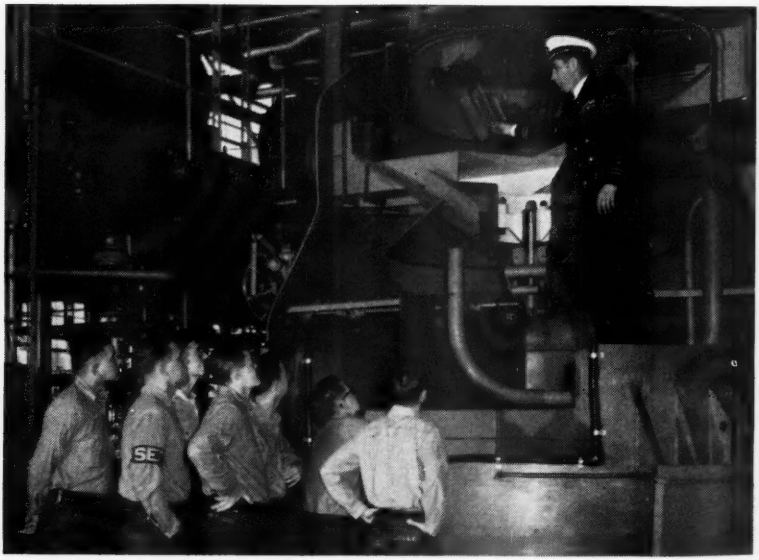
The military aspects of naval life are stressed. Much of the daily routine and nearly all of the student regulations are based on those in use at the United States Naval Academy. Close order

drill, weekly personnel and barracks inspections and frequent spot checks on locker stowage, personal appearance and watch standing help produce alert and smart appearing students.

Despite careful preliminary screening by the Bureau of Naval Personnel, not all candidates complete the course. To date, approximately 7 percent of each class do not finish. Those who fail academically usually declare, "The course isn't too difficult but the pace is too fast." An important element in assuring success is the individual's ability to organize his work and budget his time so that he can absorb the vast amount of new material.

The lecture method of instruction is utilized, with liberal employment of films and other training aids. Unannounced quizzes are held frequently and a monthly forty-five minute test is given in each subject. A seven-hour comprehensive examination, prepared by the Bureau of Naval Personnel, comes at the end of the course.

Successful candidates are commissioned ensigns in the Naval Reserve. Graduates without previous service are obligated to active duty for three years, if needed, and to serve a total of eight years in the Naval Reserve including the period on active duty. Credit for previous service reduces the required active duty time, but in no case is it less than fifteen months.



This model de-aerating tank is used to teach marine engineering principles to officer candidates. U. S. Navy Photograph

The School's instructional staff consists of one hundred officers and twenty-five chief petty officers. More than half are Reservists and most are professional college teachers.

Newport—the Navy's second largest base on the Atlantic seaboard—was selected as the site for the School largely because excellent training equipment was available for instruction purposes, including "live" guns, radar gear, fire fighting apparatus and scores of models, mock-ups and other devices. These facilities, along with an extensive use of motion pictures, slides, charts and other visual aids, have done much to accelerate the presentation and absorption of subject matter.

Most colorful, perhaps, of the many training devices, is a box-like "ship," fifty feet on each side, used to teach damage control. Reproducing actual damage conditions, including fires, loss of light and power, ruptured fire mains, steam leaks, flooded compartments and all that goes with a torpedo or bomb hit, the "ship" actually sinks or remains afloat depending on the skill of the student "repair crew" aboard her.

Already more than eighteen months have elapsed since the first graduates began duty with the fleet. Reports reaching the School are warm in their praise for the broad technical training they have received. As a source of officer material, the Navy's Officer Candidate School offers distinct advantages from the standpoint of both economy and competence. These men who have completed college at no cost to the Government and have then undergone four months of intensive technical training as enlisted men, are demonstrating this by passing with flying colors a most thorough examination—the test of seamanship and leadership in the Nation's service.

THE WAR FOR WORDS

MAJOR KARL A. VON VOIGTLANDER

NO ONE has ever liked censorship—Americans least of all. The United States alone among the countries of the world has grown from infancy to maturity with an uncensored press as a fundamental public right. Any attempt to abrogate this right of the free press has always been met with public alarm and indignation. Yet everyone recognizes the necessity for censorship in time of war.

Keeping military information from the enemy is a principle of war probably as old as war itself. Sun Tzu, a famed Chinese strategist of the Fifth Century B.C., said concerning military security, "On the day that you take up your command, block the frontier passes, destroy the official tallies and stop the passage of all emissaries. It is the business of a general to be quiet and thus maintain secrecy."

The problem of military censorship in a democracy is to safeguard vital information while being fair with the public, eager to know the truth. Each succeeding war has made this problem more difficult. Wars make bigger and bigger news as more and more people become involved, either directly or indirectly. Meanwhile, modern war reporting has grown more comprehensive and swifter. The time difference between front lines and headlines is now only a matter of minutes. And in the realm of radio, it is even less.

The tremendous efficiency of modern communications plus the great longing of the public to know what is happening places the military censor on a difficult spot. This was particularly true of the early phases of the Korean campaign. Despite the experience gained in World Wars I and II, the Korean conflict has presented unusual censorship problems. Correspondents were on the scene at the outset, reporting what they saw and heard or could find out, uninhibited by the formal restrictions which normally accompany an official declaration of war.

MAJOR KARL A. VON VOIGTLANDER, Armor, is an instructor, Armed Forces Information School, Fort Slocum, New York. He was formerly press censor in the Press Advisory Division, GHQ, Far East Command.

General of the Army Douglas MacArthur made the decision that formal censorship would not be imposed. A week after the fighting began his Public Information Officer held a press conference in Tokyo where a "voluntary code" of censorship was introduced and explained to the press and radio representatives. Under this code, correspondents were to refrain from disclosing or speculating about troop movements and to eliminate the use of names or locations of troop units.

But almost immediately the voluntary censorship plan ran into difficulties. Two weeks after it had been in effect General MacArthur declared that the correspondents were not living up to the code. Pointing out the exaggerated casualty claims in the press, he cited official figures to back up his complaint. Meanwhile, the over-candid reporting coming out of Korea alarmed some members of Congress, who called on the press and radio to stop disclosing troop movements in the Far East. As concern over breaches of security in the combat zone multiplied, the Far East Command Public Information Officer had to warn that "a certain type of reporting is prejudicing the United Nations' position."

The idea of a voluntary code of censorship had overlooked a natural enemy—the fiercely competitive nature of newspaper reporting. The reporter's job is to get the latest news to his editor as quickly as possible before some rival scoops him. The hard fact in the newspaper business is that the first paper to print the news gets the lion's share of the readers; there are no consolation prizes for the also-rans.

Working under this stress of competition, the correspondents in Korea and Japan had to make the difficult decision of whether to keep silent for military security reasons or to keep abreast of less scrupulous rivals. The possibility of banishment from the theater was not always sufficient to keep an over-zealous reporter in line. A single journalist might think he had nothing to lose and something to gain if he ignored censorship.

From the outset, General MacArthur urged the press to continue to censor itself and leave the Army free to fight. He said, "There is probably no more misused or less understood term than press censorship. Contrary to what many believe, no precise rule can make it effective, nor were any two military censors ever in agreement on detail." He could have added that the wavering fortunes of war enter into the problem, too.

When our forces have the enemy on the run, it is difficult for the harassed enemy to take advantage of any information

about troop movements and dispositions. On the other hand, when the enemy is pressing our forces and has the initiative, even if only temporarily, our adversaries can quickly put to good use any information available to them. At such times their tactical field headquarters can listen to our news broadcasts and in many cases take immediate action, based on information that might otherwise be a long time in filtering through other channels.

With the Inchon landing and the break-out from the Pusan perimeter, the United Nations forces took the offensive. During the period from the middle of September until the end of November 1950, there was little violation of the voluntary code. At least, the enemy was so disorganized that he could not take advantage of any information from press or radio.

But this situation was quickly reversed by the entry of the Chinese Communist Forces at the end of November 1950. The United Nations found its drive suddenly stopped in the face of a numerically superior force. The censorship problem immediately became acute again. Lieutenant General Sir Horace Robertson, the British commander, called for the imposition of censorship. He pointed out that while the North Korean forces had been of limited capacity, the new enemy represented a powerful, unknown force.

To meet this new situation, a security code, still not labeled censorship, was published in the second week of December 1950. It consisted of a series of pointed requests which the correspondents were asked to observe. At the same time, however, plans were laid to begin formal censorship. News bureau heads in Tokyo were consulted and plans were made to establish a Press Advisory Division.

When the Eighth Army commander, Lieutenant General Walton H. Walker, was killed in an accident behind the front, the news of his death was flashed immediately to the outside world—a flagrant violation of security at a critical moment. Then and there, after six months of trial and error, voluntary censorship ended and compulsory censorship began.

There was no mourning for the voluntary code. Most correspondents agreed that it had failed to do an effectively consistent job of safeguarding vital information. They were also glad to be rid of the responsibility of censorship. In fact, an editorial in *The New York Times* stressed that as long as censorship was limited to military security, it was a good idea.

Simultaneously with the establishment of a censorship office

in Tokyo under General MacArthur's headquarters, the Eighth Army in Korea also commenced censorship operations. Both organizations used approximately the same criteria. Correspondents cleared their stories with either the Press Advisory Division in Korea or the one in Tokyo.

A pamphlet entitled *Censorship Criteria* was issued to the press and radio representatives as a strict guide in the preparation of news stories. The definition of what was and what was not security was no longer vague. The conditions for reporting the fighting in Korea were now specific. The dateline on all tactical stories was to be "somewhere in Korea." Correspondents were responsible for the accuracy of their stories in statement and implication. In general, no story that was likely to furnish information of military value to the enemy would be released by the Press Advisory Division. Stories that would cause embarrassment to the United States, its allies or neutral countries, as well as those of a critical nature which might bring our forces or those of our allies into disrepute, were banned.

The identification of units or individuals was placed under strict control. The arrival or existence of any unit anywhere in the entire Far East Command, which included Japan, would not be mentioned in the press unless a previous announcement had been made in official communiques. When reporting any specific front-line action, corps, divisions, or smaller units could be named only by special permission, nor could the specific nationality of United Nations troops be mentioned. The same ban applied to the naming of commanding officers of units. In reports of local combat actions, all casualties, both allied and enemy, were not to be identified.

While these restrictions and many others may have made grim reading for the correspondents, the primary mission of the Press Advisory Division was to furnish every possible assistance to the press and radio so that timely and accurate information would reach the public. Operations were placed on a twenty-four hour basis, seven days a week, with representatives from the Army, Navy and Air Force on hand to censor and release material at any time it was submitted. A log to insure against loss and to check handling time was kept by the censors, who gave each submitted story a serial number and time-date stamp before processing it in the order in which it was received. Censors could not make changes in the copy, only deletions. They could, however, recommend revisions and correspondents were always allowed to make necessary changes

when deletions disturbed the continuity of their material.

The presence of photographers, newsreel cameramen and radio broadcasters with tape recorders added to the problem of censorship. Still photographs and motion picture film were subject to the same restrictions as press releases. Photography, however, opened an additional channel to the enemy in his propaganda war of twisting harmless actions into atrocity scares. Therefore, any photographs capable of being recaptioned and used by the enemy to convey falsehoods were banned. Tape recordings, the newest reportorial technique in combat reporting, were auditioned by the censors and offending passages were snipped out.

One other problem still remained, however. Because of separate operations in Korea and in Tokyo, double censorship of dispatches often occurred. Copy filed in Korea was censored there; then it was transmitted to Tokyo where it was subjected to final check and possibly further deletions.

Correspondents complained that this double check on their copy not only caused delays but left them in the dark as to what further cuts had been made. Finally, the Eighth Army Commander recommended that GHQ in Tokyo assume complete responsibility for all censorship in the theater.

On 15 June 1951 a consolidation was effected. A single censorship office in Tokyo, with an operating detachment in Korea, controlled all news media releases. There was direct telephone communication between the main office and the detachment. Both offices used the same criteria; "stops" and "releases" were uniformly applied; censors were trained in Tokyo before being sent to Korea.

The elimination of double censorship speeded up the flow of copy. As news cleared the censors in Korea it went directly to the teletype room in the same building for transmission to Tokyo. As soon as received by the News Division of the Public Information Office, the teletype was hand-carried to the agency or person concerned for forwarding to the correspondent's home office.

Although not a problem, the review of copy written by foreign correspondents in Korea sometimes required special handling. At one time or another there have been correspondents in the Far East from Great Britain, Australia, Japan, the Philippines, Yugoslavia and many other countries. Their copy was censored in the regular manner with a few exceptions. Sometimes foreign language copy had to be submitted in English for

later translation and in other cases translators were on hand to read the copy in English for the censors.

Where facilities did not permit representatives from all the news and radio agencies to be present at an important meeting or event, one or two reporters wrote dispatches which were pooled and used by all the agencies. Known as "poolers," these dispatches were sometimes written by the public information officer on hand. "Poolers" have been used extensively during the Korean peace talks, where only a few reporters could be accommodated at any one time. The pooled dispatch was censored and then handed to all press and radio representatives.

While the application of military censorship has since worked smoothly in Korea, one loophole exists. No military censorship of the mails or of commercial wire or radio facilities has been imposed. As a result, correspondents who want to risk being asked to leave the war zone can mail uncensored stories to their publications at home or send uncensored copy via commercial telegraph, radio or cable, all of which are available in some parts of Korea and Japan. Use of such facilities to circumvent the censors has been noted in several publications, although it does not happen often. Most correspondents and their editors have met the censorship problem fairly.

The Korean campaign has added valuable experience to the military censor's book of rules. Many of the lessons learned have been incorporated in Army Regulations 360-65 setting forth the basic principles for the organization and conduct of field press censorship in combat areas.

Within this general framework, the problem of censoring the news while keeping the public intelligently informed will no doubt vary from war to war and from one campaign to another. Therefore, as one chief censor in Tokyo instructed his staff and the representatives of the press and radio: "Rules will be adhered to as closely as good common sense will allow."

SAFETY RIDES THE AIRLANES

COMMANDER HAROLD C. JIPSON

ORDINARY MOTORISTS who think they are hedged in by stop lights, stop signs and maximum speed laws are unfettered by comparison with the Army, Navy, Marine Corps and Air Force pilots whose every move except in actual combat is dictated by safety.

Safety is such a dominating factor in military flying these days that the occurrence of a serious accident, if the pilot is following all the rules, is about as difficult as a successful jail break from Alcatraz.

Flying safety begins on the ground. Before a pilot may take off he must get permission from the field operations officer. This means writing out his flight plan, stating what plane he will be using, where he is heading, how far he is going and how long he plans to be away from the field.

If this flight plan meets approval, he can consider taking off, but only after he has thoroughly gone over the mechanical operation and safety features of the plane with the ground crew and has signed a certificate to that effect. The ground crew, in turn, must certify that they have checked the plane according to prescribed charts and remedied any discrepancies noted by the pilot who last flew the plane.

To make sure that nothing is overlooked, the ground crew services all planes according to a careful schedule. Each plane gets a routine check every thirty, sixty, one hundred and twenty and two hundred and forty hours of flying time. As the flying time increases the check-up becomes more thorough. In addition to these routine checks, each plane, according to its type, receives a service tour overhaul at any time from every fifteen to thirty months, whether it has been flown or not. The service tour includes taking the plane apart and putting it together. Even X-ray machines are used to ferret out hidden cracks in

COMMANDER HAROLD C. JIPSON, USN, is Operations Officer, U. S. Naval Air Station, Floyd Bennett Field, New York.

metals. Finally, after a specified number of service tour overhauls, the flight-weary planes are scrapped.

Every engine also receives individual treatment. Each one has a service record which shows exactly when it was last overhauled and how many hours of flying time it has accumulated since. An engine may be switched from plane to plane, but the service record stays with it during its entire life of operation.

The pilot himself gets a thorough physical examination once every year. If he is not physically fit to fly he may be "grounded" either temporarily or permanently. At other times, it is up to him to decide whether or not he feels in tip-top shape to fly.

Finally, with both plane and pilot fit and ready to fly, the time for departure arrives. But before the pilot can even taxi the plane into take-off position, he must get a "go ahead" from the control tower. When he is ready, he tunes his radio to the proper frequency and asks the tower for instructions. Not even a land vehicle can move over the runway area without permission of the controller in the tower.

The tower signals "go ahead" either by radio or by red or green lights. The pilot taxis to the "duty" runway—the one best suited to the prevailing wind—and takes a position just off the main route of outgoing and incoming planes where he awaits further instructions. During this waiting period he gives his plane a final check by running his engines up to rated horsepower and by checking his radio. He completes this final rundown not by memory but by consulting a carefully prepared list of steps to be followed in "one-two-three" order.

Again he calls the tower for clearance. Preference is always given to aircraft approaching for a landing, for once a plane has started an approach to the field it has the right of way over all others. If no planes are incoming, the "go-ahead" is signaled.

Normally the pilot follows a standard take-off pattern, a slow spiral to the left to gain the necessary one thousand foot altitude over the field before heading for his destination. If he wishes to vary this by making a "straight out" or a "right out" take-off, he must get permission from the control tower. If the weather is bad and the pilot is flying by instruments, he is required to report his actual departure time over the field. In good weather, this is noted by the operator in the tower.

His departure time, together with his cross-country flight plan, are sent by teletype to the local flight center, clearing house for information on planes in the air. The flight center in turn forwards this information to the pilot's point of destination. Upon

Ready for any disaster, the crash-fire rescue team at Floyd Bennett Naval Air Station unlimbers its equipment. U. S. Navy Photograph

completion of his flight, the pilot turns in his flight plan to the field operations officer and the time of his arrival is flashed back through the flight center to his point of departure. Until this arrival information is received, the records can not be considered complete but remain as a reminder that the plane is still in flight or possibly missing.

A plane is considered possibly missing one hour after its expected time of arrival; normally the plane carries enough gas to remain aloft that long. As soon as any plane is more than an hour overdue, however, the flight center is immediately notified. The center sends queries to landing fields along the route and alerts the local search and rescue squadron. If the plane is two hours overdue, it is presumed to be missing and search and rescue operations begin. Meanwhile, the ground crew at the destination point double checks similar planes on the field in case the pilot actually landed but failed to report in.

Bad weather is one of the biggest threats to safety in the air and extra precautions are taken to prevent accidents. Whenever the cloud ceiling is less than one thousand feet or visibility becomes less than three miles, all planes must guide their flight by instruments. Before taking off under conditions of low ceiling and bad visibility, the pilot must get a flight clearance with the

Civil Aeronautics Administration (CAA) and even then may fly only on prescribed schedules and at certain altitudes. In addition, he must keep constant radio contact with airports along the route of flight to report conditions he has observed and to receive additional route information.

Should a pilot flying in good weather suddenly run into bad weather along his route, he may land his plane and file another flight plan around the bad weather area, or he may file a flight plan with CAA for instrument flight through the bad weather zone, or wait until the weather clears, or return to his home field.

Safety factors become most critical when a plane arrives over its destination in bad weather. Radio then becomes the pilot's right hand helper. By radio he has already guided his plane from one ground station to another along the route and, as he approaches his destination, he talks by radio with the field for landing instructions. If air traffic is heavy he will be guided by radio to a waiting area where planes flying at different altitudes for safety make slow circles near the field. Incoming planes normally take their assigned place at the top echelon and circle the field until signalled one at a time to land. Disabled planes or those running low on fuel, however, are accepted for landing before any others which may be waiting.

The tower operator is always alert to anticipate a crash and to notify the fire and rescue squads when trouble occurs either on take-off or on landing. A special emergency telephone system puts him in instant contact with the fire house, the operations office and the office of the base commander. Emergency squads of fire fighters, ambulances and crash rescue teams are summoned. Meanwhile, even for normal landings, a fire truck and crew are stationed alongside the main runway at all hours to be close to the scene of a possible accident.

Fire is a major hazard in a crash landing. Pilots, knowing this, usually drain their gasoline tanks before attempting a landing which seems likely to result in a smash-up. In accidental crash landings, high-octane gasoline still in the tanks seeps through the wreckage, ready to burst into a holocaust at the first tiny spark from the plane's electrical system or from metal grinding against metal.

Emergency squads, equipped with asbestos clothing, face shields and fire hoses try to get to the scene of the crash as quickly as possible. Their most potent weapon against fire is the so-called "fire foam." Sprayed under pressure, the foam smothers gasoline and oil fires by blanketing the flames, cutting

off any air supply. Rescue teams quickly penetrate the wreckage and extricate the injured or unconscious crew and passengers. Axes or cutting torches may have to be used. An emergency crane truck is part of the rescue equipment, ready to lift twisted sections of a fuselage to make it easier for the rescue workers to bring out the injured.

During periods of storm and low visibility, the pilot lands by instruments. This means that he must switch his radio contact to the Ground Controlled Approach (GCA) operator who guides him through the mist or darkness by radar. Obeying signals from the GCA operator, the pilot flies a prescribed course until his wheels touch the runway; then he receives instructions from the tower to taxi to the unloading ramp.

At this point the cycle of ground maintenance starts again. The pilot notes any mechanical deficiencies which appeared during the flight and turns the plane over to the ground crew for check and repair.

Trial and error during the years have produced the great mass of safety rules which govern military flying today. And trial and error are still producing new rules. Each accident is carefully investigated by a board of officers. From the findings of the board come new regulations and reports of needed technical improvement. Later other pilots read and study these to increase their own knowledge and thus advance safety in the air.

Today the dashing, daredevil pilot of fiction has been largely replaced by a somewhat older man with better judgment and an unswerving obedience to all the rules of flying safety. The change can be measured in the downward trend in major accident rates. And it can be measured, too, in the security and added confidence which passengers display when they realize that every conceivable precaution is being taken to make military flying safe for passengers and crew alike.

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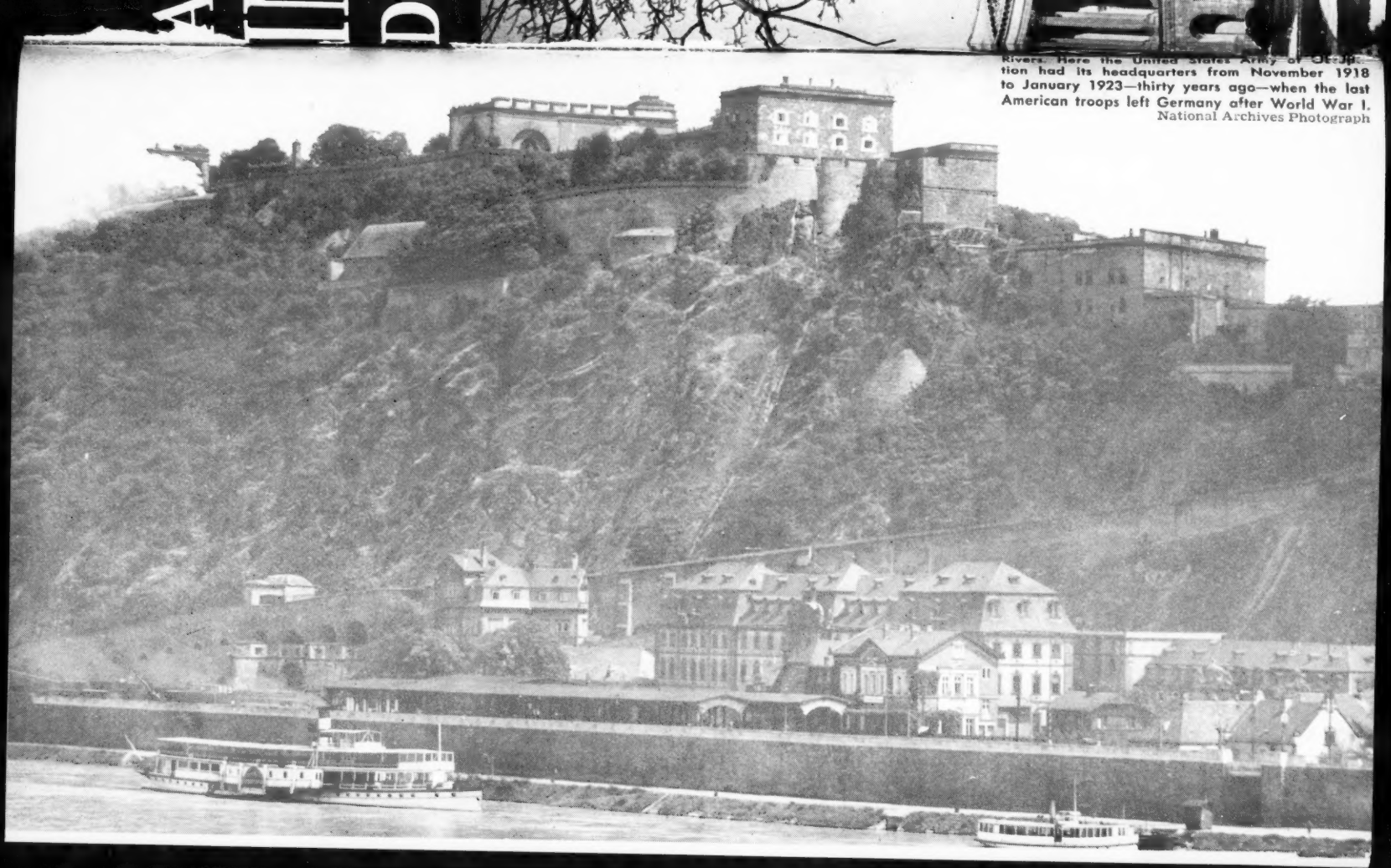

Rivers. Here the United States Army of Occupation had its headquarters from November 1918 to January 1923—thirty years ago—when the last American troops left Germany after World War I.
National Archives Photograph